

**Case 3297*****Sphyraena acus* Lacepède, 1803 (currently *Tylosurus acus*) (Teleostei, BELONIDAE): proposed reinstatement**

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**Abstract.** The purpose of this application, under Article 80.9 of the Code, is to reinstate the oldest available name, *Sphyraena acus* Lacepède, 1803, for a nearly worldwide species of needlefish. The name was suppressed and placed on the Official Index of Rejected and Invalid Names in Zoology in Opinion 900.

**Keywords.** Nomenclature; taxonomy; BELONIDAE; *Tylosurus acus*; needlefish.

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1. The name *Sphyraena acus* was established by Lacepède, 1803 (p. 325) for a needlefish common in the western Atlantic. For more than 100 years it has been known as *Tylosurus* (or *Strongylura*) *acus* (Jordan & Fordice, 1887; Jordan et al., 1930; Breder & Rasquin, 1954; Lovejoy, 2000; Collette, 2003) (see para. 3 below). In his revisionary papers on the BELONIDAE, Mees (1962; 1964; BZN 23: 149–154) provided important information showing worldwide distribution of several species of needlefishes (including *Tylosurus acus*), but he utilized nomenclature that seriously disturbed the stability of the names of several species. A conservative approach that would have kept most of the then-current nomenclature in place was suggested by Collette & Berry (1965) and submitted to the Commission (Case Z.N.(S.) 1723). In the application (BZN 22: 325–329) the Commission was asked to suppress three names considered by Mees (1962; 1964) to be nomina oblita: (1) *Esox houttuyni* Walbaum, 1792, and place the name *Esox marinus* Walbaum, 1792 on the Official List, (2) *Esox belone* var. *marisrubri* Bloch & Schneider, 1801, and place the name *Belona crocodila* Peron & Lesueur, in Lesueur, 1821 on the Official List and (3) *Esox imperialis* Rafinesque, 1810 and place the name *Sphyraena acus* Lacepède, 1803 on the Official List.

2. The original proposals (BZN 22: 325–327) were unanimously supported by the American Society of Ichthyologists and Herpetologists Nomenclature Committee in a letter dated 26 October 1965. Letters of support were also received from Prof. G.A. Moore (*Oklahoma State University, Stillwater*) (28 March 1966) and J.S. Ramsey (*Universidad de Puerto Rico, Mayaguez*) (20 April 1966). None of the comments in support of the application was published. However, Mees (BZN 23: 149–154), in an

opposing comment, defended his use of the name *Belone imperialis* (Rafinesque, 1810) for the Mediterranean species and requested that the Commission consider his alternative proposals: (1)(a) to suppress *Sphyraena acus*, (3)(a) place it on the Official Index and (2)(b) place the name *Esox imperialis* Rafinesque, 1810 on the Official List. Tortonese (BZN 24: 2) agreed with Mees that the name *imperialis* was widely used for the Mediterranean species and should be conserved. In reply, further comments from Collette were published (BZN 24: 196–198) and from Berry (BZN 24: 199–201) leading to revised proposals (BZN 24: 198): (1) to suppress the names (a) *Esox belone* var. *marisrubri* Bloch & Schneider, 1801 and (b) *Esox houttuyni* Walbaum, 1792; to place (a) *Esox marina* Walbaum, 1792 and (b) *Belona crocodila* Peron & Lesueur, in Lesueur, 1821 on the Official List of Specific Names in Zoology and (3) to place the names (a) *Esox belone* var. *marisrubri* Bloch & Schneider, 1801 and (b) *Esox houttuyni* Walbaum, 1792 on the Official Index of Specific Names in Zoology. In spite of his argument for maintaining priority of the name *acus*, the revised proposals did not reiterate his original request to suppress *imperialis* (see BZN 22: 327). However, Collette's comment (para. IV, p. 198) remains unambiguous. *Sphyraena acus* is the oldest available name and 'the Commission should follow the law of priority in this case and reject Mees' request'. The Commission was asked on voting paper V.P. (67)50 to vote (separately) on the proposals to suppress the names as proposed by Collette (BZN 24: 198): (1) *Esox houttuyni* Walbaum, 1792; (2) *Esox belone marisrubri* Bloch & Schneider, 1801 and by Mees (BZN 23: 153): (3) *Sphyraena acus* Lacepède, 1803 and (4) *Belona argalus* Lesueur, 1821. The proposals to suppress the names *Esox houttuyni* Walbaum, 1792 and *Sphyraena acus* Lacepède, 1803 were approved. The other names under consideration received a simple majority, but failed to receive the required two-thirds majority of the votes cast and were resubmitted to the Commission for a second vote [V.P. (69)11]. The result of the second vote did not affect the decision of the Commission on the proposal to suppress the name *acus*, which was approved on the first ballot and it was accordingly placed on the Official Index and the name *Esox imperialis* Rafinesque, 1810 placed on the Official List of Specific Names in Zoology in Opinion 900 (BZN 26(5/6): 213–216).

3. The name *Tylosurus acus* was used and several geographic subspecies were recognized in papers that we had in press at the time (e.g. Parin, 1967; Collette & Parin, 1970): *T. acus acus* (Lacepède, 1803) (western Atlantic), *T. acus imperialis* (Rafinesque, 1810) (Mediterranean), *T. acus rafale* Collette & Parin, 1970 (Gulf of Guinea), *T. acus melanotus* (Bleeker, 1850) (Indo-West Pacific) and *T. acus pacificus* (Steindachner, 1876) (eastern Pacific). Most subsequent references, such as Lovejoy (2000) and regional FAO Identification Guides such as Collette (2003) used *T. acus* or one of its subspecies. Recently, the name of the eastern Pacific population was raised to specific rank (as *T. pacificus*) by Collette & Banford (2001). The question of which name to use for this almost world-wide species was raised again by Eschmeyer (1998), Collette (2003), Nelson et al. (2004), Collette (2005), in preparing manuscripts for the Sears Foundation series *Fishes of the western North Atlantic* (BBC) and an FAO world catalogue of beloniform fishes (BBC and NVP), and Eschmeyer (on-line *Catalog of Fishes*, 4 August 2005 update).

4. We have examined the usage of various names for this species in *Zoological Record* and the extensive list of belonid references maintained by the first author (1802 references, 675 from the western Atlantic). Other than Mees's work, we found only

two recent papers in which the name *Tylosurus imperialis* was used for any population of the species in the western Atlantic (see Schmitter-Soto et al., 2000; González-Gandára & Arias-González, 2001). Not only is the name *Tylosurus acus* the oldest and most commonly used name for this species in checklists and faunal studies, but it is used in other studies such as development (Breder & Rasquin, 1954, Collette et al., 1984, Boughton et al., 1991, Lovejoy, 2000), parasitology (Cressey & Collette, 1970, Kabata, 2003), stomach contents of tunas (Dragovich, 1969, Matthews et al., 1977), injuries to marine mammals (Carrasquillo-Casado et al., 2002), and molecular systematics (Lovejoy, 2000, Banford et al., 2004, Lovejoy et al., 2004). A summary of usage of the specific name of *T. acus* (Lacepède, 1803) is held by the Commission Secretariat.

4. Stability is best served by reinstating the priority of the commonly used species-group name *Tylosurus acus*. Mees did not make a good case for upsetting prevailing usage. He previously stated (Mees, 1964) that his action was taken 'not without hesitation' and that Rafinesque's description and figure of *imperialis* leave 'much doubt' so it is difficult to understand why he selected a poorly described junior synonym (*imperialis* Rafinesque, 1810) in preference to a poorly described senior synonym (*acus* Lacepède, 1803). There is no confusion with the name *Belone belone acus* Risso, 1827 when the generic nomenclature recommended by Collette & Berry (1965) and Collette et al. (1984) is utilized.

5. In summary, *Belone imperialis* has only been used for the Mediterranean population with any frequency (24 references), usually at the species level (14 references) and as a subspecies of *T. acus* (9 references). In other areas *T. acus* or the appropriate subspecies name has been used most frequently: 138 references as *Tylosurus acus*, *Strongylura acus*, or *Belone acus*, 73 as the appropriate subspecies of *T. acus* (*a. acus*, *a. rafale*, *a. melanotus*, or *a. pacificus*), and 70 references with the subspecies name as a species.

6. In the interest of stability, continued use of *T. acus* is recommended (see Collette 2003, p. 10 [on line reference: ref. 27306]). We believe that by continued use of *T. acus* for the species and utilization of the names that we recognize at the subspecies or species level there will be little confusion with the name *T. imperialis* for the Mediterranean or what the name *T. acus* means elsewhere. Therefore, we request that the name *Sphyraena acus* Lacepède, 1803 be removed from the Official Index of Rejected and Invalid Names in Zoology and placed on the Official List of Specific Names in Zoology.

7. The International Commission on Zoological Nomenclature is accordingly asked to use its plenary power:

- (1) to amend the ruling in Opinion 900 (1) to delete the name *acus* Lacepède, 1803, as published in the binomen *Sphyraena acus*, from the Official Index of Rejected and Invalid Specific Names in Zoology;
- (2) to place the name *acus* Lacepède, 1803, as published in the binomen *Sphyraena acus*, on the Official List of Specific Names in Zoology.

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).